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BUREAU
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PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior consent of this division.

REPORT FOR THE WEEK ENDING JULY 1, 1933.

HAVRE:

Since the 22nd, conditions have been very favorable, 2.19 inches of rainfall having been recorded at the station. Temperatures have been low, much more favorable for growing crops than for haying. In the commercial fields, over 100 tons of alfalfa hay is in the cock. There has never been as much variation in tillage methods for small grain as is shown now. Oats and wheat on land that was in grain last year show very little recovery and will be almost failures. Good fallow shows considerable recovery and with favorable conditions could make 20 bushels or more. Horn barley on the rotations shows more recovery than other spring grains. Some of the continuous cropping on fall plowing is in a bad way, but corn land looks fairly good. Alfalfa that was harvested before the 22nd has started good growth. Winter rye on fallow is filling well and should make an average yield. Aside from a few plots, winter wheat has a poor stand and is becoming very weedy.

Maximum temperature, 86°; minimum, 50°; precipitation, 1.49 inches; Precipitation for June, 2.55 inches.

JUDITH BASIN:

Weather for the week continued cool. Crop growth during the week was very good, and crops seem to have overcome to a great extent the effects of the dry, hot weather of two weeks ago. Practically every shower received has contained some hail. Not enough has fallen in the immediate vicinity of the station to do any real damage, but some areas north and also east of the station a few miles have suffered rather severely. Grasshoppers appeared in various parts of the Judith Basin. They are very numerous in places on the station, and several hundred pounds of poison mash have been distributed in an effort to control them. The poisoning has been very successful to date. Work during the week has included cutting and stacking hay, poisoning grasshoppers, cultivating alleys and roadways on the experimental plots, and hoeing corn. Maximum temperature, 83°; minimum, 43°; precipitation, 0.77 inch.

HUNTLEY:

Light sprinkles of rain during the week cooled the atmosphere but added nothing to the moisture content of the soil. All grain crops continued to burn, and it is doubtful if a rain at this time would be of much benefit to winter wheat, much of which is drying ripe, or to late sown spring grains, which are very dry and not yet headed out. Corn and other row crops are not yet showing the effects of the drought and are making a normal growth. Cultivation operations have continued throughout the week. Weeds on the grass plots and newly seeded alfalfa plots were mowed, as was the winter rye in the pasture rotation and field peas in the unpastured rotation 651. Hogs on all of the pastures were weighed, and those on the alfalfa plots were removed to the dry-lot for finishing. Spring pigs were moved from the acre of winter rye to the acre of field peas, the rye having become too coarse for palatable grazing. Maximum temperature, 96°; minimum, 47°; precipitation, 0.07 inch.

SHERIDAN:

The past week was cloudy a part of the time and somewhat cooler. Corn and other late forage crops showed considerable improvement as a result of the rain of last week. Seed that lay in dry soil has emerged. Some slight improvement can be noted with some of the spring grain, and somewhat more with some of the winter grain, but much of the spring grain was

permanently stunted by the hot weather following immediately after the heavy rains of May and continuing through the first three weeks of June. Haying is being completed to-day, July 1. Yields of alfalfa generally ranged around two tons to the acre where the stand was good. For seedings of the past three years the stand is light, and in the rotations the yield was under a ton to the acre. Yields of crested wheatgrass and bromegrass were considerably lighter. Plots of row crops were gone over with the rotary hoe to break the crust forming after the rain, and corn in the pastures and seed blocks was cultivated. Alleys in the rotations were cultivated, for the first time this season, the growth of weeds being about as small as that of crops generally. Roadways were duckfooted. Sheep and hogs were weighed, and the sheep on annual pastures were allowed into Sudan grass, which has made a rapid growth.

Maximum temperature, 90°; minimum, 49°; precipitation, 0.01 inch; June precipitation, 1.23 inches.

DICKINSON:

Drought conditions continued to the end of the week, when rain amounting to 0.81 inch greatly relieved the situation. Small grains were injured by the drought so that, except on fallow, yields will be very low or, in some cases, total failures. Oats and barley were damaged more than wheat. Corn, not injured by the heat, has made rapid growth and now promises well above an average yield. The condition of flax is very poor, as this crop was injured by the heat. In plots on the station it shows a high percentage of canker. Native pastures have been burned badly. Pasture mixtures planted in 1932 have held up better than the native pasture. Visitors during the week included P.F.Trowbridge; J.F.Parker, Bureau of Entomology; H.C.Hanson, N.Dak.Experiment Sta.; and Mr. Story assistant to H.C.Hanson.

Maximum temperature, 95°; minimum, 44°; precipitation, 0.86 inch; June precipitation, 1.26 inches.

MANDAN:

Agronomy - The week was reasonably cool with some rain. Much of the small grain was previously burned beyond recovery. Wheat on fallow, disked corn ground, and some on spring plowing may make a little crop with good rains. Corn is still in good condition. Rain, wind, and hail occurred on the afternoon of June 28. The 0.57 inch rain fell in about 20 minutes. The runoff was high, with soil washing in some spots. Not much hail fell, but corn was damaged to some extent. The leaves were split, and a number of stalks were broken off at the base. During the month of June small grain burned so badly that crop prospects were reduced from good to nothing in most cases. Most of the damage was done near the middle of the month. A large area is included south and southwest of here.

Maximum temperature, 94°; minimum, 56°; precipitation, 0.72 inches; June precipitation, 2.18 inches.

Cooperative Grazing Experiment - The steers made near-normal gains during June in the larger pastures. The smaller pastures were short, and the steers showed a lighter gain. The steers of the rotation pasture grazed one division of 23 acres from May 16 to June 30. The pasture was closely grazed, and the gains were much less than those in either the 100-acre or 70-acre. The bromegrass and crested wheatgrass pastures stood up well during the month, but are likely to go down rapidly from now on, unless unusual rains fall. The following table shows the steer gains for June and for the 45-day period:

Pasture (acres)	No. steers	Pounds gain per head. June	45 days
100	10	94.5	163.5
70	10	87.5	157.0
50	10 *	77.0	147.0
30	10	47.0	87.5
70 (Rotation)	14	62.1	120.7
28 (Bromegrass)	10	100.0	162.0
7 (Crested wheatgrass)	4	100.0	152.5

* These steers ate 1 pound of cotton seed cake per head daily during the month.

Two steers from the reserve pasture were taken to Fargo on June 30 for slaughter. Two were also taken at the end of May.

Arboriculture - Part of the nursery fields have been irrigated during the week. Seedlings of boxelder and chokecherry have been thinned. The seed of these two species came up very thick, a d the seedlings have made no growth during the hot dry weather of the past month. The heavy wind and hail storm on the 28th broke down a number of poplar and buffaloberry trees in the testing blocks. It also broke off a number of small ash seedlings in the nursery field. The moisture which accompanied it has been very beneficial to all seedling growth.

Horticulture - The severe windstorm on the 28th caused some damage by breaking branches in the orchards. Showers however, have relieved the drought condition, and trees and shrubs are looking considerably better than they did a few days back. Currants are ripening but yields will be light. Juneberries promise a fair crop. Work during the week included cultivating and hoeing, tying up grapes, pulling discarded trees, and trimming off broken branches. Visitors included F.B.Trowbridge, N.Dak.Agricultural Experiment Sta.; J.A.Clark, Cereal Crops and Diseases; and R.L.Shotwell, Bureau of Entomology.

BELLE FOURCHE:

The weather has continued hot and dry throughout most of the week, and all small grain crops have started to burn, but corn, sorgo, and potatoes have made a vigorous, uninterrupted growth. No rain heavy enough to be of any material benefit to crops has been received since May 23. The past month was the third warmest June on record, the mean temperature being 6° above normal. J.A.Clark, Cereal Crops and Diseases, was a visitor on June 29.

Maximum temperature, 95°; minimum, 54°; precipitation, .02 inch;
June precipitation, 1.22 inches.

ARCHER:

The weather has been very dry, and at times the heat was oppressive. The continued dry weather has caused the prairie grasses to dry to such an extent that they crunch under one's feet. All drilled crops are burning. The rotation plots, especially those on fallow, are in fair condition. The corn rolls during the warmer part of the day. Beans, millet, and Sudan grass continue to grow, and most of the varietal wheats are heading. Field work consisted of hoeing and cultivating.

Maximum temperature, 95°; minimum, 50°; precipitation, none.

NORTH PLATTE:

Another week of hot, dry weather has passed. Temperatures on two days reached new highs for the year. Small grains are suffering acutely. Winter wheat on fallow and on early plowing was harvested June 29-30, only 27 days after heading. Oats and barley are beginning to ripen. Corn has made a rapid growth and is now beginning to roll during the hottest part of the day. About 150 people attended the crops field day, June 28. Clark and Quisenberry, Cereal Division, are station visitors for a few days, in the interests of wheat improvement. Maximum temperature, 102°; minimum, 62°; precipitation, none; June precipitation, 1.39 inches.

AKRON:

The first extremely hot weather of the season was experienced during the week. Maximum temperature was above 90° every day. Corn, sorghums, beans, and other late-spring-seeded crops look very attractive and are very promising. Early varieties of early-spring-seeded small grains will yield average or less, and the later varieties already appear to be burned beyond recover. F.A.Coffman, Cereal Division, was a visitor the 27th. C.E.Crews, in charge of south central Kansas experiment fields visited the 1st. Maximum temperature, 100°; minimum, 55°; precipitation, 0.03 inch; June precipitation, .92".

COLBY:

The weather continues dry and hotter. The maximum yesterday, June 30, was 109°, which is a record for June at this station. A hot wind blew all afternoon, and all crops wilted badly. Corn and the sorghums continue growing, however. The late sown barley on winter wheat ground which was fallow last year is holding its own and the heads appear to be filling well. The regularly seeded oats and barley on fallow and one other plot of oats were cut with a binder this week. One more plot of barley, on corn stalk ground, will be ready to harvest the first of next week. The rest of the oats and barley and the spring wheat will not be harvestable as they dried up without heading to any extent. Maximum temperature, 109°; minimum, 56°; precipitation, none; June precipitation, 0.14 inch.

GARDEN CITY:

Thinning sorghums, hoeing weeds, and harrowing listed planted sorghums and corn the past week was the general type of work done on the project. Some fallows were cultivated with the Forkner cultivator. Odd jobs have consisted of getting the combine ready for cutting wheat the first of next week. We have been blessed with extreme heat and dry weather as a rule the past week. Row crops are doing very well. Since the rain on June 21 the remainder of the sorghums have come up to a fair stand on most plots. Owing to the unusually dry weather in June, emergence of sorghums was uneven and long continued. During the month of June nine days of 100° or above were recorded, an all time record for that month. On June 30 the all time record was broken with a maximum temperature of 109°.

Maximum temperature, 109°; minimum, 62°; precipitation, 0.35 inch.

HAYS:

Hot, dry weather continues. Heavy and hot winds occurred three days during the week with disastrous effects to barley, oats, and spring wheat. Barley, oats, and spring wheat, especially the barley and oats, are later maturing than usual because of a late start due to drought. These crops are now burned beyond recovery. There will be very few plots worth harvesting. The barley is in the soft dough stage and oats in the milk stage, both crops

drying up rapidly. A large percentage of the oats and barley plants died from drought and heat before developing seed stalks. Heads are very small and many will develop no seed. With a sudden change to favorable weather oats on fallow might make a yield of 6 or 8 bushels. Corn averages about 8 to 10 inches high and is wilting badly every day. The corn is suffering loss of stand by jack rabbits feeding on it. Sorghum crops are not yet suffering, except for a slightly retarded growth. Winter wheat harvest is progressing very well. The harvest of commercial fields will be finished July 1. Barring accidents the harvest of plots will be finished July 3. By that time oats, barley and spring wheat should be dry enough to cut. Eighty-four plots of wheat was combined June 30. Maximum temperature,113°; minimum,64°;precipitation, none; June precipitation, 0.67 inch.

TUCUMCARI:

Temperatures have been the hottest of the summer, the three past days reaching 103°. Moisture is again needed, especially for ranges. Small row crops are continuing growth, but would respond to rain. Planting of increase is at last completed, but full emergence of crops planted this week may not occur until rain is received. The surface soil has dried exceptionally fast, especially in planter rows. June was the second hottest on record, with evaporation well above normal. The total precipitation of 1.30 inches brought the total for 1933 to 3.08 inches.

DALHART:

During the past 12 months the precipitation was 8.25 inches, which is the lowest for any 12 consecutive months at Dalhart. There is no moisture in the soil at any depth. The possibilities of getting a feed crop now are getting rather doubtful. High temperatures have been the rule the latter part of the week. The maximum of 106° on June 30 is 1° higher than any temperature previously recorded here. O.R.Mathews spent June 29 and 30 on the station in a study of the rotation project. Maximum temperature,106°; minimum, 60°; precipitation, 0.15 inch; June precipitation, 0.66 inch; January - June precipitation, 1.77 inches.

BIG SPRING:

Weather conditions remained unchanged during the past week. Maximum temperatures for the entire week have ranged between 100° and 102°. The farmers of this section that have cotton up are now signing cotton acreage reduction contracts under the provisions of the new Agricultural Adjustment Act, but the great majority of them are wondering how they can get some up in order to meet the requirements for reduction. Knifing the Dry Land Project, the cooperative field, and an increase field of milo and cowpeas was accomplished this week. Thinning has been attempted on plots where stands have been obtained. This has been rather unsatisfactory, as the plots ranged from fairly uniform to very poor stands. Maximum temperature, 102°;minimum,72°;precipitation,0.16 inch; January-June precipitation,2.25".

LAWTON:

The intensely hot, dry weather of the past weeks continued without interruption. Several threats of rain produced only a few scattered showers. The total precipitation for June consisted of two showers that amounted to 0.25 inch. Vegetation of all kinds shows an acute need of moisture under an average weekly maximum temperature of 101.7°, a very low humidity, and a brisk wind movement part of the time. Some of the rotation plots of kafir

and feterita are beginning to head. Drilled sorghum and sweet clover in paired rows are badly wilted. Alfalfa has made but little growth since the second cutting of hay. Lespedeza sericea appears to withstand the hot, dry weather much better than either Korean, Common, Kobe, or Tennessee. Prospects for adequate production of feed crops in this part of the State are very meager.

WOODWARD:

Again no rain to report. The temperature on every day but one has been 100° or over. Wind the past four days, while not high has been stiff and has continued at about the same rate during the night as during the day, making the average high. Normally winds usually are very light at night. Nursery stock planted this spring has required constant copious watering, and even shrubbery and trees long established are withering and drooping. The green ash was the first to show severe wilting. But the green ash is well known as often outliving most other trees in neglected Plains environments. Perhaps its tendency to drop its leaves with lack of moisture saves it. Under severe drought this spring in western Texas it showed no inclination to put out leaves, long after other trees were in full leaf. The forsythia has proved very drought resistant. In a crowded situation in competition with vigorous trees it has persisted for years. It has withered and drooped each summer until it seemed as though it much die, but each spring it has come back freshly. The crape myrtle when well established stands heat and drought well. Bignonia, vitex, and flowering willow are blooming freely despite the drought. Rotation sorghums were planted in dry soil during the week. They were planted shallow, so they will not be likely to cover deeply if hard rains come, and should come up quickly. They will be replanted between the rows as soon as rains occur, thus giving two chances for a stand. The time is rapidly approaching when there can be no possible hope of maturing any crop except Sudan grass. Work of the week has consisted of constant watering of shrubs and trees, hoeing weeds, and doing after harvest cultivation on rotation wheat plots.

Maximum temperature, 108°; minimum, 70°; precipitation, none.

PENDLETON:

The work on the station the past week has consisted chiefly of rogueing and weeding. Weeds have been a very persistent crop this year. All fallow plots in the tillage trials and increase plots were gone over with a revolving rod weeder. The early varieties of winter wheat are now beginning to show color. Trebi barley is ripening with a beautiful golden color. Harvest in this section will be about ten days later than usual, present indications are that most combines will start about August 1. The most optimistic farmers in this section are now talking of 55 to 60 bushel wheat, much depends upon the weather for the next ten days. During the past week the weather has been very favorable with moderate temperatures and high humidity threatening rain each day during the week. Alaska garden peas ripened and were harvested the 27th. On the higher elevations east of the station four "viners" are busy with green peas for a cannery in Walla Walla. The peas are cut with a tractor-drawn swather, loaded directly on trucks and hauled to the viner. As soon as the peas become too hard for canning, the remainder will be allowed to mature for seed. Very good yields of green peas are being obtained. O.A.Aamodt, Univ. of Alberta, was a visitor this week. B.B.Bayles, Cereal Crops and Diseases, spent several days here this week.

Maximum temperature, 84°; minimum, 42°; precipitation, 0.42 inch.

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REPORT FOR THE WEEK ENDING JULY 8, 1933.

HAVRE:

With moderate temperatures and a somewhat showery condition, the week was fairly favorable. Rain was recorded on three days at the station. Severe hail damage was caused in two areas in the county. Corn continued to grow rapidly. Some of the early seeding shows tassel. There has been no drought damage to this crop. Winter rye is ripe. Winter wheat is thin and very weedy on most plots. Spring wheat was injured more than any other spring grain. Many methods will be practically failures. Barley and oats seem better with fewer apparent failures and higher possible yields on the better methods. Domestic grasses are cut. Irrigated alfalfa is in the stack after a delay of more than a week. Alfalfa on the plots is growing rapidly and may make a fair second cutting. Flax is past bloom. Canker is damaging some methods. Grasshoppers continue to cause damage. The county has mixing plants at six points and are selling the poison (bran and sawdust mixed) at one dollar for 100 pounds of bran. Most damage was on disked stubble, but the hoppers are flying now and are more scattered.

Maximum temperature, 92°; minimum, 52°; precipitation, 0.26 inch.

JUDITH BASIN:

Hot, dry weather during the past week has been very injurious to small grains. Spring wheat and barley are just beginning to head, and rain is needed soon to produce a crop. Sixty-Day oats are fully headed, but the straw is very short. Grasshoppers are beginning to do serious damage to all crops, despite the liberal use of poison bran. The cutting of alfalfa hay is just about completed with the yield somewhat below average. Apparently the hail-storm of June 2 did more damage to the alfalfa than was at first thought to be the case. The damage ranges from 30 per cent over part of the fields to about 75 per cent in others. The cutting of crested wheatgrass and other grasses for hay is just starting. All grasses have made an excellent growth, and yields will be the best since 1927.

Maximum temperature, 91°; minimum, 47°; precipitation, 0.03 inch.

HUNTLEY:

Drying winds during the week have further cut down the prospective yields of small grains. Winter wheat is practically mature throughout this section and some harvesting is being done. Most of the harvesting reported to date is being done with binders, although on one farm the wheat is dry enough to be combined. The yields from this field are ranging from 15 to 25 bushels to the acre depending upon the stand. On the dry-land plots grains on the better tillage methods are showing up in marked contrast to the crops on the poor rotations and cultural practices, the latter being failures in many cases. Corn continues to grow well and shows no effects of drought. Soybeans, sorgo, and Sudan grass have not progressed as rapidly as corn. The second crop of alfalfa is coming on, but the growth is very uneven. Seed alfalfa is in heavy bloom. Field work has included plowing late fallow plots and turning under peas and sweet clover for green manure. Maximum temperature, 101°; minimum, 45°; precipitation, 0.17 inch.

SHERIDAN:

Weather continued warm, with considerable cloudiness during the last few days. There was one light shower. The mean temperature for the first five days of the month equalled the highest yet recorded here for

the same period, but no extremely high maximum temperatures were recorded. The condition of spring grain appears to have improved some over the week. Wheat and barley in the rotations have headed, and oats are partly headed. In the dates of seeding test with spring grain the growth and condition of all seedings up to and including those of May 16 are good, those seedings corresponding with the time of seeding in the rotations being noticeably better than in the rotation plots. Winter wheat is beginning to turn and appears to be well filled. Corn and late forage crops made a rapid growth. All row crops were hoed and corn was thinned to stand. Fallow and green manure plots in the rotations were duckfooted, and cultivation of other fallow with the duckfoot is now in progress.

Maximum temperature, 96°; minimum, 53°; precipitation, 0.43 inch.

DICKINSON:

A shower of 0.90 inch on July 4 has improved the crop outlook to some extent. This rain fell in 15 minutes, and the run-off was heavy. It covered only a very limited area and much of the country immediately south and west is still dry. This shower was accompanied by hail which damaged the leaves of the corn. Damage to the other crops was almost negligible. Corn on the rotations was cultivated July 3 and again on the 6th and 7th following the hard shower. Corn is now beginning to tassel at a height of about 3 feet, which is above average for this date. Wheat and feed grains are very spotted. Some fields promise a fair yield, while others will be total failures due to heat, drought, and grasshoppers. Poisoning grasshoppers has been continued this week. Hoppers are now beginning to fly, and are still quite numerous in places on the station although poisoning has been done. Some species have continued to hatch in grass lands and are thick enough to cause considerable damage.

Maximum temperature, 97°; minimum, 51°; precipitation, 1.11 inches.

MANDAN:

Agronomy - The past week has been fairly cool with a number of light showers. Some days the sky was clouded over and the prospects for rain looked good but only a little fell. A light crop of peas was turned under early in the week and late fallow was plowed. Winter rye is being cut to-day, the 8th. The yield will be very light. Crops just about held their own during the week.

Maximum temperature, 95°; minimum, 50°; precipitation, 0.39 inch.

Cooperative Grazing Experiment - Grass improved slightly during the week. The cattle appear to be doing well. So far the flies do not seem to be so bad as usual at this time of year.

Arboriculture - The week has been spent in hoeing, spraying caragana seedlings, removing branches and trees broken down by the windstorm of June 28, and picking Siberian pea-tree seed. Much of the Siberian pea-tree seed has ripened prematurely this year with the seed only partly developed. All seedling stock is badly in need of a rain sufficient to penetrate down to the feeding area of the roots. Very little if any growth is being made at the present time.

Horticulture - Currants, Juneberries, and part of the gooseberries were picked during the week. Yields of currants and gooseberries are very light, as most of the fruit dropped as a result of the hot weather three weeks ago. Juneberries were not damaged by the hot weather and are bearing heavy crops. Pomona and Red Dutch were the highest yielders among the currants. Success appears to be the outstanding Juneberry variety.

Vegetable crops are still holding their own vegetatively. Setting of fruit is scarce and slow. The recent hailstorm did some damage to pruned tomatoes and shredded the foliage of corn and other crops. The moisture accompanying the storm, however, has offset this damage to a great extent. Sweetcorn selections in the breeding project are looking unusually fine. Bagging will probably start late next week. Sweetcorn varieties in the variety test are in silk and promise an early crop. Potatoes in every cultural project are unusually late in forming tubers, so far they are only the size of peas. This same complaint is heard from farmers in this vicinity. Beets, carrots, broccoli, and peas are in season from the gardens at the station. Considerable pruning of injured trees after the storm has been in progress. Poplars, elms, and ash trees suffered the most damage. Visitors of the week included A.C.Dillman, Cereal Crops and Diseases.

ARCHER:

There was considerable cloudiness and a number of local showers in this vicinity. Two light showers occurred at the station. These conditions did not increase the moisture available to the roots of field crops, but they cooled the air and decreased evaporation, which caused plants to brighten up. The varieties of spring wheats have headed, and wheat on the rotation plots is heading. The corn crop is scarcely knee high, but the first tassels are beginning to show. Barley is burning more than either wheat or oats. The growth of the bean crop is at a standstill. All crops are in need of moisture. The annual Farmers' Field Day will be held July 11. County Agents E.O.Johnson, of Laramie County, Wyo., and H.H.Simpson, of Weld County, Colo., visited the 3rd. W.L.Quayle visited the 6th.

Maximum temperature, 90°; minimum, 46°; precipitation, 0.32 inch.

BELLE FOURCHE:

With the exception of two hot days during the middle of the week, fairly moderate temperatures have prevailed, the last two days being cloudy and quite cool. A few light showers occurred, and 0.48 inch was received in a heavier rain on July 6. The precipitation and cool weather afforded temporary relief to crops and permitted the ripening of barley and oats to progress in a more normal manner. Barley is filling out remarkably well, and oats will produce some grain, but spring wheat is apt to be a total failure unless a good rain is received within the next few days. Corn and sorgo have made a rapid growth, but corn is starting to show signs of suffering from lack of moisture. Field work has consisted chiefly of cultivating corn and sorgo, fallow plots, roads, and alleyways.

Maximum temperature, 101°; minimum, 52°; precipitation, 0.62 inch.

NORTH PLATTE:

Lower temperatures during the past week have enabled crops to endure the moisture shortage with less appearance of injury than for the preceding several weeks. The past two days have been cloudy and quite cool, with the result that the ripening of grain has slowed up considerably. About one-fourth of the D.L.A. plots have been harvested, and all will be ready for the binder during the coming week. Second cutting of alfalfa on the bench was begun on the 6th. Corn has rolled during the hours of highest temperature but continues to make a good growth. First tassels are beginning to appear. Silage corn on the bench is being given first irrigation.

Maximum temperature, 99°; minimum, 52°; precipitation, 0.05 inch.

AKRON:

The past week has been one of showers, the station receiving five. Lowered temperatures have been a relief to growing crops. Corn on the rotations is tasseling at a little more than knee high. It has never suffered for moisture and presents a vivid green, healthy appearance. The surface planted plots are suckering badly, with from two up to four shoots per plant. Beans and the sorghums are making very satisfactory growth. Oats and barley have been harvested on the rotation plots and promise sub-average yield. The early and mid-season varieties of these crops have also been harvested in the variety experiments. K.S.Quisenberry is here this week end in the interests of hard red winter wheat investigations.
Maximum temperature, 97°; minimum, 55°; precipitation, 0.48 inch.

COLBY:

A three-quarter-inch rain last night made a dent in the dry spell which has continued here for eight weeks. Pastures were dried up, and the corn was beginning to suffer badly in places. Even the sorghums would curl during the heat of the day. If normal rains and normal temperatures continue from now on, corn and sorghums are in excellent condition to make a good crop. The barley drilled in the fallow plots of winter wheat continues to mature, somewhat prematurely of course, but is filling better than expected. The fallow plots of spring wheat may also be worth harvesting. The sorghums were cultivated for the first time this week. The corn will be laid by this coming week, as it will soon be too tall to cultivate. Maximum temperature,100°; minimum, 57°; precipitation,0.84 inch.

GARDEN CITY:

All row crops were cultivated. The final job of sorghum thinning was completed on the 5th. Most kafir plots are up to uniform stands. Milo plots contain every age of plants from five weeks old to 10 days. Stands of milo are fair to good. The ground is getting so dry that the younger milo plants are not making much growth. Wheat is dead ripe on most of the plots. The grain is shrunken, and many heads are not filled at all. Combining will start on the dry land project next week. Early listing, plowing, and one-waying was done on the new dry land project the first half of the week. Many of the continuous wheat plots will not be harvested. They have dried up to the place where they are considered a complete failure. They will simply be plowed under or handled in the manner in which the following tillage practices call for.
Maximum temperature, 106°; minimum, 67°; precipitation, none.

HAYS:

Two showers brought some temporary relief to suffering feed crops, but the drought has not really been broken. The feed crops continue wilting every day. The ground has been moistened only to a depth of 4 or 5 inches, below which it is so hard that it is almost impossible to plow or list. Wheat harvest was finished July 5. Barley was harvested with a mower, because the straw was too short to harvest with binder. Only a very small percentage of the heads contain grain. The oats and spring wheat are rapidly drying up, but are still too green to harvest. One plot of kafir, rotation 510, was replanted July 7. This is the only plot that failed to germinate any seed. Corn and sorghums are being cultivated today, 8th. Maximum temperature, 112°;minimum,63°;precipitation,0.95 inch.

TUCUMCARI:

The late, small row crops have made normal growth the past week in spite of hot, dry weather. Three showers brought the total precipitation for 1933 to 3.34 inches. Ranges are drying fast, and crops will very soon need moisture. Good progress has been made in thinning and cultivating. Plot and increase fields of the station have probably never been so weedy as this year, for no early cultural work was possible. Weed seeds did not germinate until June, and crops and weeds emerged together. Stands are quite consistently good, with the exception of cotton and a few forage sorghum variety plots and some late increase milo which was planted so deep to reach moist soil that some seedlings failed to emerge. Dry Land plots in fact show unusually good stands. O.R.Mathews was a visitor this week. Maximum temperature, 102°; minimum, 65°; precipitation,0.26 inch.

DALHART:

Rains have fallen in a few localities north and east of the station, but by far the larger part of this territory remains too dry to plant row crops. A few farmers in the territory where the rains have fallen are complaining that the young seedlings are dying. Two light showers fell at the station this week. They brought the total precipitation for the year to date to a total of 1.95 inches. No planting has been done on the station other than the first dates of cotton and the first date of planting of the sorghum varieties. These plantings are total failures. Some plowing was done during the week for fallow and early fall plowing. Needless to say the ground was left rough and chunky.

Maximum temperature, 104°; minimum, 64°; precipitation, 0.18 inch.

BIG SPRING:

The long dry spell was temporarily relieved by a light rain received during the week. The station seemed to be on the edge of this rain as the farmers to the north reported a heavy rain, while in town a mile south a bare sprinkle was received. Milo, kafir, and cowpeas on the spring plowed plots; and the soybean varieties were replanted after the shower. Other work consisted of thinning milo and knifing increase fields. A block of Sumac was dry planted during the week, but it is doubtful if the light rain will do more than sprout the seed.

Maximum temperature, 102°; minimum, 68°; precipitation, 0.31 inch.

LAWTON:

A shower of 0.34 inch on the 6th and a drop in temperature to a maximum of 87° provided only a few hours relief for row crops and other vegetation. The average maximum temperature for the week was 100°. Kafir in the rotation plots is emerging from the boot and a few heads are in bloom. The plants average 3 to 4 feet in height. Corn is pretty badly burned, and grain will be practically a failure. Fifty varieties in a nursery block and one rotation plot of corn were harvested July 10. Cotton plants are severely dwarfed in growth and some blooms are present. In the April 15 planting a few small bolls can be found.

WOODWARD:

Drought has continued over the past week. A little of the sorghum seed planted on the rotations has come up. Part of that which has come up has died. All trees are showing signs of distress. In some cases this is extreme. Numerous trees and shrubs planted this spring have died. Cotton plants 4 inches high have set squares. Corn is putting forth tassels, which shrivel as soon as they emerge. Roots of corn plants have developed

into gnarled balls which support the plants so slightly they often blow over. Samples sent to pathologists brought conjecture this is due to drought. Limbs of apple trees hang limply, laden with fruit and withering leaves. City water supplies, usually from shallow wells or lakes, are becoming exhausted over this whole region. This means the death of many city tree and shrubbery plantings. On the station occasional weeds have started over all the fields, too few to cultivate, but expensive to hoe out. Work of the week has consisted chiefly of hoeing weeds and watering shrubbery and trees. Some early apples were harvested, largely from the ground where trees had shed them. Crape myrtle is coming slowly into bloom and will continue to be the most constant and reliable source of bloom until frost. The common rose mallow, "mallow marvel" of the catalogs, planted in hedges or banks, is the most enlivening feature of the landscape during the forenoons over many weeks of summer.

Maximum temperature, 108°; minimum, 70°; precipitation, 0.07 inch.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR THE WEEK ENDING JULY 15, 1933.

HAVRE:

Crops made rapid progress toward maturity. Early strains of barley and oats in the nursery are ripe. Most of the oats and barley on the plots will be ready to cut in the next week or ten days. Early grass hays were cut during the week. Second cutting alfalfa under irrigation is making rapid progress. C.McKee, Mont. Experiment Station, was a Station visitor the 15th.
Maximum temperature, 93°; minimum, 50°; precipitation, 0.08 inch.

JUDITH BASIN:

Spring grains have deteriorated rapidly during the week on account of the dry weather. Barley and late seeded spring wheat seem to have suffered the greatest damage. All grains on the rotations are fully headed, but the yields will be very light, even with optimum weather conditions until harvest time. Crop conditions in the Judith Basin are very spotted. In the southern and eastern sections the crops are very poor, but in the northern part there are some excellent crops. Grasshopper damage continues, and many late seeded fields of spring wheat have been totally destroyed by grasshoppers and dry weather. The grasshoppers have been kept in control on the station by the use of poison bran mash, but the constant migration from the neighboring unpoisoned fields to the plots makes the situation discouraging.
Maximum temperature, 93°; minimum, 46°; precipitation, 0.21 inch.

SHERIDAN:

The weather continued hot and dry over the most of the week. Corn began to curl during the heat of the day. Some winter wheat and early sown barley ripened fast and will be ready to harvest by the first of next week. Barley on sandy slopes has burned badly and probably will make no crop at all there. On most other ground, although the straw is extremely short, the heads are fair and seem to be filling fairly well. Corn is tasseling, except that which did not emerge until after the rain in June. Grasshoppers are quite thick, and have done considerable damage in some nearby sections. Many sections around here are much drier than the station. Water for irrigation in most sections near here is getting low. All row crops were given a second cultivation during the week, except where a large part of the stand of Sudan grass and sorgo did not emerge until after the rain in June. Second growth alfalfa is beginning to bloom. In the variety test with alfalfa, both in rows and close seeding, there appears to be enough growth to make a second cutting, but with most other alfalfa there is sufficient growth to cut only on plot borders and low places.
Maximum temperature, 99°; minimum, 48°; precipitation, 0.30 inch.

MANDAN:

Agronomy - The past week has been dry, but some of the days have been cool. It has tried to rain two or three times but only a shower reached here. Some areas west of here reported heavy rainfall and severe hail. All crested wheatgrass was cut during the week. The yield of seed will be light. Corn shows signs of moisture shortage. With good rains there is still a chance for a bumper crop of corn. A second cutting of alfalfa was made along the coulee. The yield will be light.
Maximum temperature, 97°; minimum, 47°; precipitation, 0.61 inch.

Cooperative Grazing Experiment - The 30-acre pasture is practically bare and cannot hold out much longer. Bromegrass and crested wheatgrass have dried up badly and are now pretty woody for pasture.

Arboriculture - The entire week has been spent in picking Siberian pea-tree seed. A total of about 900 pounds, field weight, has been collected. This will yield about 100 pounds of clean seed.

Horticulture - Gooseberries, currants, and Juneberries have been picked. Houghton and Carrie were the highest yielders among the gooseberries, but yields were low as most of the fruit had fallen off during a previous period of hot weather. Raspberries were picked for the first time this season on July 13. Fair yields are in prospect. Golden currants and Chinese cherries are ripening in the breeding blocks. A few new selections have been made. Pollinating of ears in the sweetcorn breeding work started July 14, and bagging of silks is carried on at the rate of about 200 per day. Vegetatively this project is looking better this year than it has for several seasons past. So far beans have developed no pods, potatoes no tubers, and tomatoes no fruit. Early sweetcorn, which had set ears and promised a very early crop, is at present shriveling badly and the crop may be much less than expected. Flower beds and lawns are holding their own yet, owing to consistent watering, but are not looking as well as in years of more rainfall.

Visitors to the station during the week included L.R.Waldron and H.L. Walster, N.Dak.Agricultural College; D.S.Olson,U.S.Forest Service,Missoula; Prof.Cook,Extension Forester, Univ.of Montana, Bozeman; L.S.Matthew,State School of Forestry, Bottineau; J.Allen Clark, Cereal Crops and Diseases; and Otto Fulsher and R.L.Lazier, Hereford Cattle and Ranch Co.,Cheyenne, Wyo.

BELLE FOURCHE:

Hot weather prevailed throughout most of the week. A heavy shower accompanied by a high wind and some hail was received July 12. Corn leaves were partly shredded by the hail and wind. The damage to oats and winter rye on the dry-land rotation plots ranged from 10 to 45 per cent, but the injury to other crops on the station was negligible. A few miles distant, however, the hail was much heavier, and in some instances corn, small grain, and sugar beets were almost completely destroyed. The amount of precipitation recorded at the station was not much more than sufficient to afford brief relief to crops. A strong, abnormally hot wind on July 10 caused extensive burning of small grains and materially hastened the ripening of oats, barley, and winter rye. Potatoes have been wilting, and corn has been curling badly during the hot days. Corn has started to tassel, and potatoes are beginning to blossom. Sorgo has made an unusually rapid growth and is on the verge of heading. The annual farm picnic was held July 15, and the attendance was one of the greatest in the history of the station. The usual program of speaking, vaudeville entertainment, sports, and dancing was held. S.H. Hastings, Div. Western Irrigation Agriculture, visited the station a few days.

Maximum temperature, 103°; minimum, 55°; precipitation, 0.80 inch.

ARCHER:

During the past week this locality experienced four hot, dry days with a hot wind on July 12. The dry spell was broken July 14 with 0.77 inch of precipitation, however, this scarcely wet all the dry soil. All plant growth was in serious need of moisture before the rain, therefore, it will aid all crops and especially the small grains, which are heading and filling. More than 300 farm folk attended the annual Field Day held July 11. Governor L.A.Miller was present and gave a short address. Other visitors were Dean

J.A.Hill, W.L.Quayle, and D.R.Sabin, Univ. of Wyo.; C.B.Steward, National Grain Corp. of Chicago; E.O.Johnson, Laramie County, Wyo; R.O.Westley, Albany County, Wyo.; and H.H.Simpson, Weld County, Colo.

Maximum temperature, 95°; minimum, 51°; precipitation, 0.77 inch.

NORTH PLATTE:

Rain has occurred in various parts of the State during the past week, but North Platte remains absolutely dry. Harvest of small grains, which was begun on the D.L.A. project on June 29, was completed July 14. With the exception of a few winter wheat plots that were not reseeded and had very light stands, all plots were comparatively free of weeds. Most of the straw was short, but the binder was used on all but two plots. The lower leaves on many corn plants have fired. The upper leaves roll by noon on warm days, but, as they are still able to unroll at night and look fresh in the morning, it appears that but little permanent injury has been done and that a good crop could be produced if moisture is received. W.W.Burr visited the station July 8 to 13.

Maximum temperature, 104°; minimum, 61°; precipitation, 0.07 inch.

AKRON:

A rain of 1.22 inches fell in a period of not over 30 minutes July 14. The soil of the station was so dry and so receptive that run-off was very slight. The same storm delivered devastating hail in a strip about a mile wide beginning immediately south of Akron reported extending some seven to eight miles southeast. This rain will prove very beneficial to the station experiments with corn, sorgo, beans, potatoes, and millet, as these crops were beginning to show the effect of a shortage of soil moisture. Following a rain of 0.30 of an inch received earlier in the week, the proso and foxtail millet varieties and the rate of seeding proso experiments were seeded. The last heavy rain may crust the soil and interfere with stands. Harvesting is about half completed and threshing was commenced. The rotation oat plots were threshed the 14th. Average yields were: Fallow, 18.0; row-crop stubble land, 6.8; and small grain stubble land, 6.0 bushels per acre. D.W.Robertson, was a visitor this week.

Maximum temperature, 100°; minimum, 55°; precipitation, 1.70 inches.

COLBY:

This was a week of about as favorable weather as one could hope for. The three-quarter inch rain on the 7th was followed by another on the 8th and one of almost an inch on the 10th. A shower of .15 inch fell this afternoon. The corn and sorghum crops are growing by leaps and bounds. These crops have seldom looked more promising. Corn is beginning to show tassels. It was laid by during the week. The fallow plots of spring wheat were harvested, and we are now cutting the barley which was sown in the winter wheat plots. Director Call and Prof.Throckmorton were visitors this week.

Maximum temperature, 97°; minimum, 63°; precipitation, 1.68 inches.

HAYS:

The past week has been another warm one. Corn continues wilting badly every day, although some growth is being made. Sorghums are wilting less, but the growth of these crops is being somewhat retarded. Corn and sorghums which were planted on the project about the first of June are now 20 inches and 12 inches high, respectively. The earliest seeding of the earliest varieties on the Forage and Cereal crop projects are beginning to head. Alfalfa and bromegrass on the Dry Land project still remain dormant

due to the drought. The second cultivation of corn and sorghums was finished. Oats and spring wheat were harvested, and considerable tillage work was done on the seedbed preparation experiments for winter wheat. Dean Call and Prof. Throckmorton were visitors at the station the 14th.

Maximum temperature, 103°; minimum, 66°; precipitation, 0.51 inch.

GARDEN CITY:

Harvesting of wheat was finished on the Dry Land project the 10th. Yields are very poor compared to the past four or five years, and in all cases are far below the averages. Without exception, all continuous wheat plots were failures and were not harvested. Fallows produced approximately 1 to 8 bushels per acre. Row crops are doing very well and standing the dry weather as well as could be expected. We still have a chance of producing a normal crop of sorghums if sufficient rain is received. Director Call and Prof. Throckmorton were station visitors the 11th. Ten days of July the maximum temperature has been 100° or more.

Maximum temperature, 104°; minimum, 66°; precipitation, 0.68 inch.

TUCUMCARI:

Field work has progressed well the past week, with thinning of row crops completed and practically all crops cultivated. All crops are late and small, but have made good growth since early in the month. Weeds have been unusually troublesome, for lack of spring moisture prevented early germination. Wheat plots were threshed during the week and yielded from 2.2 to 7.7 bushels to the acre, the majority averaging about 5 bushels. From seeding to harvest dates the early and late plots received 5.71 and 5.30 inches precipitation, respectively. The second cutting of alfalfa should be made next week and promises to be considerably heavier than the first cutting. Visitors included Messrs. O.S.Fisher, Extension Service; E.C.Hollinger, Asst. State Extension Leader; and J.R.Horton, Entomologist of Wichita,Kans. Maximum temperature,104°;minimum,67°;precipitation,0.59inch.

DALHART:

Temperatures remained above normal, and the relative humidity ranged to higher percentages than usual for the year. The few spots or areas where rains have fallen report slow growth to dying plants on the row crops planted. The range cattle have all been moved out. The maximum temperature reached 106° again the 14th. Soon after the maximum was reached the wind velocity increased and a duststorm raged for 15 minutes. Maximum temperature, 106°; minimum,64°;precipitation,0.23 inch; precipitation January 1 to date,2.18".

BIG SPRING:

There has been no relief from the dry, hot weather. Maximum temperatures have ranged from 102° to 111° for the past five days, gradually increasing until the high point was reached on the 14th. This was the highest maximum recorded at this station for several years. Crops, where stands were obtained, are holding up well under the sweltering heat. This is due mainly to the fact that the plants have not made much growth as yet. It is estimated that about half of the farmers of this county were able to get sufficient stands of cotton to enable them to sign cotton retirement contracts. The others have not planted a seed of any kind as yet. With the latter group the problem has now developed into one of trying to grow some forage crops for their livestock. Pinto beans can be planted within the next 30 days and

mature fair yields under normal conditions. Station work has consisted of cultivating, knifing and hoeing weeds. Some of the early maturing varieties of grapes were picked.

Maximum temperature, 111°; minimum, 72°; precipitation, none.

LAWTON:

A shower of 0.12 inch and a few hours of cloudy skies on the morning of the 15th provided a brief respite from the average maximum temperature of 104.8° that prevailed from July 9 to 14. During the 23-day period, June 22 to July 14, inclusive, the maximum temperature averaged 102° and the precipitation consisted of two showers that amounted to 0.46 inch. Sorghum crops withstood this period of intense heat very well until the past week when the temperature reached 110°. Since that time they have showed severe burning on the basal leaves. The plants are extremely dwarfed in growth, and heads are emerging slowly from the boot. The high temperatures and hot winds have caused considerable sterility in plants that have headed. The second brood of chinch bugs appeared June 25 and are present in large numbers on the sorghums. However, the injury is not as intense as the infestation would indicate and lodging is negligible. There is considerable evidence to indicate that the intensity of chinch bug injury has been somewhat reduced by a toughened conditions of the plant tissue, due to drought. Corn on the rotation plots is still standing, but it will be harvested as soon as plant lodging begins. Madrid yellow blossom sweet clover No. 27474, grown in paired rows on 0.4 of an acre produced a yield of 9.8 bushels of cleaned seed per acre. Wheat yields in the 1933 variety test averaged 21.4 bushels per acre. As yet, the ground has been too hard and dry to permit any early preparation of land for fall seeding of small grains. Fall rains usually follow the protracted periods of summer drought, and farmers are looking forward to wheat pasturage as the last chance to produce much feed for livestock this year.

WOODWARD:

The past ten days farmers have been coming in desperately inquiring as to what they will do for cow feed, their main and last dependence. To-day a slow rain is falling, which will revive hope immensely. Great acreages will be planted to sowed feed, though in many cases only bin scrapings can be obtained for seed. The sources of sorghum seed are almost exhausted for this year and good seed for next year will be scarce. It is reported that over a million dollars worth of roadwork will be started within a month in northwest Oklahoma, and that much roadwork will be started in adjacent parts of neighboring states for the relief of drought victims. One of the perennials that has come through the drought the best and is attracting the most attention is Echinops Rito, or globe thistle. Its large, spherical, glistening blue flower heads, are striking and very attractive. Others that have withstood this searing summer well are Asclepias tuberosa or butterfly-weed, Linaria dalmatica, commonly known as butter-and-eggs, and several of the liatris. At this station we have merely scratched the surface of possibilities of perennial flowering plants, and we cannot go deeply into the matter. Enough has been learned to convince us that there is an almost limitless number of them that can be grown even under the severe climatic conditions of the Plains. The euonomous need water to grow normally and well, but E. bungeanus has withstood the drought with no watering and with little appearance of suffering, which cannot be said of most plants. It is probably the most rapid growing of the euonomous with

moderate watering. Work of the past week has consisted largely of watering plants and hoeing scattering weeds. Early fall plowed plots in the rotations were all plowed with the one-way plow, a fairly good uniform job being accomplished. A check of walnut and pecan grafts made this spring among farmer cooperators was made. The percentage of successful grafts is larger than usual.

PENDLETON:

The past two weeks have been very favorable for all field work. The oat hay was cut in the rotation roadways and put in the barn, corn and beans were cultivated. The weeds on the rotation fallow plots were killed with the revolving rod weeder. The spring barleys and oats in the cereal varietal trials were cut with the binder on July 12. All varieties of field and garden peas were cut with a mower on July 5-8, Austrian winter was the last pea variety to ripen. The peas in the wheat-pea rotation look as if they should yield about 20 bushels per acre. The annual field day was held on July 13, with a fair crowd in attendance, considering the competition with haying, harvest preparation, and a big meeting in Pendleton on July 14 to explain the Agricultural Adjustment Act.

Maximum temperature, 102°; minimum, 42°; precipitation, none.

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REPORT FOR THE WEEK ENDING JULY 22, 1933.

JUDITH BASIN:

The maturity of all crops has been hastened by the continued dry weather. Sixty-Day oats have been harvested and winter wheat and flax will be cut within the next two or three days. Spring wheat on the station is holding up fairly well and will return fair yields. On adjoining farms very little of it will pay for harvesting. This great variation is due almost entirely to the difference in the date of seeding. Most of the spring wheat on the station was seeded the last week of April, but much of that surrounding the station was seeded two to four weeks later. The 24th annual Judith Basin Farmers' Picnic was held at the station July 20. The estimated attendance was 4,000. F.B.Linfield and J. Dexter, of the Montana Experiment Station and Extension Service, respectively, were the principal speakers. C.McKee, Montana Experiment Station was a recent station visitor.

Maximum temperature, 92°; minimum, 39°; precipitation, 0.05 inch.

HUNTLEY: (Report for the week ending July 15, 1933.)

Hot and dry weather has continued. Small grains have ripened rapidly and a good part of the last few days has been devoted to harvest. Corn has withstood the prolonged drought very well, although it is not as tall as usual for this date. Alfalfa is nearly ready for the second cutting on most plots. The crop is short and the growth somewhat spotted, but a fair yield of good quality hay is expected. The pea forage has dried up and does not appear to be palatable. Soybeans have been extensively damaged by rabbits, of which there is an unusually large number this year. Garden crops, young alfalfa, late oats, and corn have also been injured by rabbits.

Maximum temperature, 97°; minimum, 46°; precipitation, 0.02 inch.

HUNTLEY:

Somewhat cooler weather has checked crop deterioration to a small extent, although the need of moisture is much more pronounced in all crops than it was a week ago. Corn and sorgos wilt badly during the day, and grasses are almost dried up. Small grain harvest was completed on the 21st. The grain on most plots was tall enough to bind. Some fair yields of winter wheat are expected, but spring grains will be below the average. Spring pigs were weighed and moved from the plot of peas to the combination pasture of Sudan grass and soybeans. The Sudan grass appears to be in excellent condition for grazing, but the soybeans, due to drought and rabbit injury, will have a lower carrying capacity than usual. The Annual Project Picnic is in progress in the Park adjoining the station grounds to-day, July 22. An unusually large crowd is expected to attend, due to the fact that Senator B. K.Wheeler is to be the principal speaker, and his topic will concern the legislation of the special session of Congress.

Maximum temperature, 98°; minimum, 48°; precipitation, none.

SHERIDAN:

Fair weather prevailed over the entire week, with high temperatures the first four days and cooler weather since. Early sown barley and oats, and some of the winter wheat ripened rapidly. Some winter wheat and the first date of seeding of barley were harvested. More of those crops will be ready for harvest by the first of next week, but ripening is uneven. Most

grain appears to be filling fairly well, and crop conditions generally appear to be about as good as at any time during the season. Crested wheatgrass where grazed closely still continues to make some growth, and the range generally is greener than is usual at this time of the season. Corn curled badly on hot days but still appears to be making a good growth. The older shelterbelts, while thinned considerably from the stand of several years ago, present a better appearance now than at any time since the warm winter of 1929-30, when much of the stock killed badly.

Maximum temperature, 98°; minimum, 44°; precipitation, 0.02 inch.

DICKINSON:

The fore part of the week was hot and dry and generally favorable for harvesting. Light showers in the latter part of the week were followed by much lower temperatures. The grass varieties and increase patches of crested wheatgrass for seed were harvested. Fair yields were produced by the grasses grown in rows, but close drilled plots produced very little seed. Oats and barley plots on the rotations have all been cut, and some of the poorer wheat plots were harvested. Most of the oats, barley, some of the wheat varieties, and most of the cereal nursery were harvested. Oats and barley yields will be light. Much of these grains in the locality has been mowed for feed. A good deal of the grain is very short and will be harvested with a header this year. P.F.Trowbridge, O.A.Thompson, Edgeley Substation, and J.R.Parker, Bureau of Entomology, visited the station.

Maximum temperature, 101°; minimum, 42°; precipitation, 0.17 inch.

MANDAN:

Agronomy - Several cool days occurred during the week along with one or two very hot days. A light shower has fallen pretty regular every other day. It is cloudy and raining to-day, 22nd. Corn is at about a standstill, and the leaves curled badly during the week. Corn on fall plowing is much worse off than corn on spring plowing. A light second cutting was made in the alfalfa varieties.

Maximum temperature, 102°; minimum, 46°; precipitation, 0.31 inch.

Cooperative Grazing Experiment - The steers on the 30-acre pasture are still holding their own. There is still a lot of feed in the crested wheatgrass pasture, but it is now fully mature and is getting pretty tough.

Arboriculture - All nursery fields have been cultivated and hoed during the week. Dead poplar and boxelder stumps in the main windbreak have been pulled with the tractor and hauled away.

Horticulture - Vegetables are showing the effects of dry weather more and more. Beets are yielding well as is also Golden Acre cabbage. Sweetcorn is shriveling badly, and, while the earliest planting will give some crop, the later ones, unless benefited by considerable moisture, will be a loss. Golden Market sweetcorn is now ready for the table with Sunshine following closely. Potatoes are still doing poorly. Only a few hills in a large sized patch of early planting showed tubers of usable size. Sweetcorn breeding work has been continued during the week. About 2,000 'silks" have been bagged and about 950 pollinations performed so far. The majority of the strains are still green and healthy, showing marked drought and smut resistance. Canna and geranium beds about the ground are now in full bloom and brightening the landscape considerably. Raspberries are yielding fair crops. Latham is giving the highest yields and also a very desirable size and quality of fruit. Cumberland is the best of the blacks. Chinese cherries are being picked, but yields are light this year. The light bearing habit and small size of fruit seem to be the chief objection to this

species. Among the visitors to the station for the week were H.C.Sumner, Northwest Grain Improvement Assoc., H.Schmitz, College of Forestry, Univ. of Minnesota; J.R.Parker; and R.L.Shotwell, Bureau of Entomology, Bozeman.

BELLE FOURCHE:

No precipitation was received, but moderate temperatures have enabled crops to withstand the continued drought in fair condition. Corn leaves curled badly during the hot days, but the subsequent cool weather enabled corn to regain its normal appearance. Winter rye and the remainder of the barley and oats on the dry-land rotations were harvested. Flax and spring wheat are ripening rather slowly, considering the lack of moisture in the soil, but the yields of grain from these two crops will be very light. Sorgo and potatoes continue to make a vigorous growth, and corn on all plots has tasseled. Maximum temperature, 97°; minimum, 53°; precipitation, none.

ARCHER:

The weather was oppressively warm during the middle of the past week. Crops are again in serious need of rain. The early seedings of Smyrna barley ripened and were harvested with the mower. Early varieties of oats and wheat are turning. Corn and millet are suffering more from drought than any of the crops in the fast growing stage. The extension of the water system to the new granary was completed. Seven head of registered cows and four grade cows were shipped to the State Experiment Farm at Afton, Wyo. Supt. R.Hyer of the Afton Farm and W.L.Quayle made the selections. K.S.Quisenberry visited the station July 18.

Maximum temperature, 94°; minimum, 53°; precipitation, 0.05 inch.

NORTH PLATTE:

The only relief from the long continued drought was a shower of 0.14 inch July 21, and somewhat lower temperatures during the week. Threshing on the D.L.A. project was done on the 19th to 21st. Yields were lower than had been anticipated. Average yields and the range of yields for each crop are given below:

	Low	High	Average
Winter wheat	3.8	31.2	15.9
Spring wheat on winter wheat plots reseeded	3.2	16.5	11.7
Spring wheat - regular	9.7	20.2	13.8
Rye.	6.8	10.0	8.6
Barley	6.7	25.0	14.9
Oats	9.7	35.6	21.7

Corn is still green but shows distress in the middle of the day. Pastures are about dry enough to burn.

Maximum temperature, 99°; minimum, 58°; precipitation, 0.14 inch.

AKRON:

The week has been open and favorable for field work. All open ground and the most of the row crop land has been cultivated to kill emerging pig weeds. Other work was the practical completion of the station harvesting including the nursery. Row crops have responded nicely to the rain of last week, but corn shows the need for more rain. Proso and millet varieties seeded just before the hard beating rain of 1.22 inches have emerged to satisfactory stands, with the exception of the light seedings of proso on the rate-of-seeding proso experiment. Rotation barley plots were threshed this forenoon. The fallow plot yielded 16.3 bushels per acre; cornland plots averaged about 7 bushels.

Maximum temperature, 95°; minimum, 57°; precipitation, trace.

COLBY:

This has been an ideal week for growing corn and sorghums, although to-day, 22nd, is somewhat too hot and entirely too windy. In fact to-day we are having a hot, almost scorching, wind. Corn, which is beginning to tassel, is showing a lack of moisture. Most of the time the nights have been cool, and the days have not been disagreeably hot, although the humidity has been unusually high. The cutting of the barley which had been seeded on the wheat ground was finished the 17th. The July preparation for winter wheat has been done. The fallows were all gone over with a rotary rod weeder, except as otherwise outlined. The ground was in excellent shape for working on the fallow plots. The ground where the barley had been was fairly weedy with Russian thistles and was only barely moist in places. In the method of seed bed preparation for winter wheat the plots that are worked only every other year had considerably more moisture than those worked every year.

Maximum temperature, 96°; minimum, 57°; precipitation, 0.19 inch.

GARDEN CITY:

All early fall tillage was finished in preparation for wheat seed beds and fall plowed or listed fallows. The ground was very hard and dry and turned up quite cloddy. Roadways were disked and the entire project cleaned of weeds as much as possible by tillage work. The roadways were seeded to wheat on the 20th. It is hoped that sufficient moisture will be received to bring the wheat up and maintain growth. It is desirable to have some type of growth in the roadways in the fall, winter, and early spring to prevent erosion. At the present time the surface 8 or 10 inches of the soil in the roadways is supplied with sufficient moisture to germinate the wheat and start some growth. Row crops are holding up well and making good growth. There is not sufficient reserve of moisture in the soil to make a crop. During the past week three showers have helped revive row crops and carry them. Maximum temperature, 101°; minimum, 60°; precipitation, 0.81 inch.

HAYS:

Weather continues dry and warm. Rains have been of extremely local nature. Pastures are badly burned, but it is interesting to note that some small localities have green pastures. Corn continues wilting every day. It is suffering most on the listed plot of the continuous cropping series. Corn is just coming into the tassel stage and ranges from 2 to 4 feet high. The corn planted early in this locality has already gone over the road. The sorghum crops are wilting daily, but these crops have not yet reached the critical stage. Kafir and milo range from 6 to 24 inches high. Chinch bugs previously reported have incurred less injury than was expected under the climatic conditions that have prevailed. However, corn and milo on some plots have suffered considerably. Adult bugs are now to be found all over the project on corn, kafir, and milo, so additional injury to those crops is to be expected. No symptoms have been observed of the milo disease, which for the past few years has destroyed or seriously damaged the milo on continuously cropped plots. These plots were planted with seed from selected disease resistant plants furnished by Mr. Wagner from the Garden City Station. Barley, oats, and spring wheat threshing was done the 20th. The highest yields were: barley, 4.8 bu.; oats, 3.8 bu.; and spring wheat, 1.3 bu. These yields were produced on fallow. Kafir on border areas was thinned by cutting out every third row with lister run shallow under the row.

Maximum temperature, 105°; minimum, 59°; precipitation, 0.35 inch.

TUCUMCARI:

After 9½ months of drought this locality was drenched the 16th by the heaviest rain in years. The total recorded for three rains the 16th and 17th was 2.81 inches, of which 1.80 inches fell torrentially the evening of the 16th. Crops have responded rapidly, and over much of the county where soil was too dry to permit field work the farmers are rushing the planting of feed crops and working wheat land. Station work has consisted of cultivating, mowing and cocking the second crop of alfalfa, planting Sudan grass on a blow sand area, and completing the fence bordering the new rotation plots. Temperatures have dropped considerably since the rains, and conditions of ranges and crops have improved immensely. Maximum temperature, 92°; minimum, 61°; precipitation, July to date, 3.66 inches.

DALHART:

Even to one who has been here all spring it is almost inconceivable that the native grass has failed to start growth at all because of the insufficient amount of soil moisture. An alarmingly large number of farmers have been forced to depend upon the livestock feed shipped in to this drought area and advanced to them by the Federal Government. There are some three or four areas where rains have been received to start pastures. These areas are small, and almost the whole area will raise insufficient feed for the small amount of stock which has been kept. Many farm families would be destitute except for the milk and eggs which they are able to produce with this Livestock Feed Aid. Maximum temperature, 99°; minimum, 61°; precipitation, 0.13 inch; yearly precipitation to date, 2.31 inches.

BIG SPRING:

A rain of 0.87 inch July 16 broke the period of high temperatures and improved crop conditions considerably. This rain was local in character, and as a result there are still many sections that have not been able to plant. All plots on which stands were obtained are growing well. Many plots on which stands were not obtained were replanted during the week. It is probable that these crops will not mature, but at least the crop sequence will be maintained. Station work has consisted mainly of cultivating cotton varieties, increase milo and cowpeas, and kafir and corn in the rotations. All other plots in the rotations were knifed. An increase field of Sumac was replanted during the week. Maximum temperature, 97°; minimum, 66°; precipitation, 1.07 inches.

WOODWARD:

As last weeks report was written rain was falling. This finally totaled 1.80 inches, falling slowly with little run-off. As a consequence sorghum seed that had been lying in the ground for a month came up, as did that of cowpeas and cotton. On some plots where it had been assumed all seed was up, thinning will have to be done again. Coming up this late, milos and kafirs on the plots and in the fields may not mature. Stands will be left thicker than usual to guard against excessive branching and suckering, which might delay maturity. Farmers have been rushing in every day asking where seed can be obtained that will mature grain in the short season remaining. As there is little good seed of any kind in the country, they are planting just anything, especially for sowed feed. Locke has been making a further check of walnut and pecan grafts made this spring with farmer cooperators. They run much higher than last year, apparently because of more vigorous scion wood. Grapes are beginning to ripen, and the first picking will be made the coming week. Trumpetcreeper, desert-willow, vitex, and crapemyrtle are all flaunting generous displays of bloom.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR THE WEEK ENDING JULY 29, 1933.

HAVRE: (Report for the two weeks ending July 29, 1933)

Weather for the past two weeks was extremely severe. No rainfall was recorded, and especially during the past week, temperatures were extremely high. Two nights last week were quite cold. In the mountains above an altitude of about 4,000 feet there was frost enough to kill all tender garden crops. Harvest of small grains and flax began last week and is now nearly complete with the exception of some of the later dates of seeding. Corn did not suffer severely until the past week. It is now rather badly injured, and most of it will be harvested next week. Continuous corn and fallow show the least injury. Grasshoppers are flying and are causing quite a lot of damage to all green crops, even to gardens in town. Second cutting of irrigated alfalfa hay is being cut. The crop is a little light, and there is no more water for irrigation. All grain in commercial fields was cut for hay. Oats and spring rye on fallow gave fairly good yields. Oats on spring plowed stubble are light but are being cut with a binder. Visitors included J.A.Clark, Div. Cereal Crops and Diseases, and E.E.Isaac, Horticulturist, Mont.Extension Service.

Maximum temperature, 106°; minimum, 44°; precipitation, trace.

JUDITH BASIN:

Record breaking temperatures during the past week have done additional damage to all crops. A maximum temperature of 102°, a new record for the station, was recorded July 25. All small grains have ripened prematurely, and no doubt much of the spring wheat will be badly shriveled. Harvesting of winter wheat, flax, and spring rye on the rotations has been completed, and spring wheat will be harvested the fore part of next week. Oats on the rotations have been threshed, with yields ranging from 13 to 26 bushels. The quality was poor. Recent station visitors have included J.A.Clark, Div. of Cereal Crops and Diseases, and P.A.Young, Montana Experiment Station.

Maximum temperature, 102°; minimum, 52°; precipitation, trace.

HUNTLEY:

On five days of the last seven, the maximum temperatures have been above 100°, the highest being 107°. The high temperatures and hot winds have greatly injured corn and sorgos, and it now appears doubtful that the corn will make grain. Field work on the dry-land project has consisted of putting up the second cutting of alfalfa, which was very light; hoeing corn and other row crops; and weighing hogs on pasture. The weather has been too hot for the hogs to do much grazing during the last two weeks, and as a result the forage consumption has been light and the amount of supplementary feeds eaten has been heavy. Station visitors have included Messrs.Quisenberry and Rodenheiser, Div. of Cereal Crops and Diseases, and Powers, of the Minnesota Station.

Maximum temperature, 107°; minimum, 58°, precipitation, trace.

SHERIDAN:

Fair weather continued over the entire week. The first two days were fairly cool, but the last five days were the hottest so far this season, with a maximum of 100° or above each day. Grain ripened rapidly, and early seedings of barley and oats and much of the winter wheat in the rotations were harvested. Oats in the rotations are ripening and will be ready to harvest the first of next week. Second growth alfalfa was cut and stacked. Only on the plots sown in 1923 in Field A was there sufficient growth on plots to

record yields, and on those plots the highest individual yields were only a little over 1,000 pounds of cured hay to the acre. Sheep were weighed and lambs to be sold were separated from the others. Pastures were changed for the sheep remaining. Visitors included Director Hill, of Laramie, W.L. Quayle, Director of State Farms, and Mr. Babb, of the Cheyenne Station.
Maximum temperature, 104°; minimum, 55°; precipitation, 0.01 inch.

DICKINSON:

Hot, dry weather has favored harvesting and threshing but has resulted in further damage to late crops such as corn, millet, and potatoes. Harvesting of small grains on the rotations and cereal plots was completed during the week. Crested wheatgrass increase seed blocks were threshed. Seed yields were not more than half the average yields as much of the light seed will have to be removed in cleaning to bring the weight and germination up to standard. The crop was injured by heat and drought in June and again in July before maturity so that many of the flowers did not develop. Harvesting of wheat on farms is more than half completed. Both the yield and quality are better than was expected on some of the fields which were combined in the locality. Some of the yields are above 10 bushels, and the wheat weighs 58 pounds or better as it comes from the combine. A few fields will yield better, but probably 10 to 15 per cent of the acreage will not be threshed because of damage from drought and grasshoppers. The outlook for corn is uncertain because of grasshoppers. Since the grain fields are harvested the hoppers are moving into corn and other green crops and are doing much damage. Poisoned bran is being spread, but control seems doubtful as the hoppers continually come in from unpoisoned land. Visitors included H.A.Rodenhiser, K.S.Quisenberry and T.R.Stanton, Div. of Cereal Crops and Diseases, and A.W. Aamodt, North Dakota Seed Department.
Maximum temperature, 104°; minimum, 42°; precipitation, 0.09 inch.

MANDAN:

Agronomy - The past week has been extremely hot, except for two days early in the week. A rain of 0.43 inch fell on the 22nd. This came down fast, and a large amount was lost by run-off. All the small grain plots that were total failures were mowed. Winter rye, winter wheat, and crested wheatgrass were threshed. Rye on fallow made 15 bushels per acre. Crested wheatgrass was low in yield and the seed was light. Corn is now dried so badly that there is little hope for much ear corn.
Maximum temperature, 103°; minimum, 56°; precipitation, 0.49 inch.

Cooperative Grazing Experiment - The dam in the reserve pasture is practically dry. The vegetation in the pastures is dry and harsh. Blue grama grass has made no growth for two weeks.

Arboriculture - All nursery fields and tree plantings have been hoed during the week. Deadwood in the main windbreak, consisting of lower branches dead due to overhead shade, dead tops, and trees completely dead, is being removed. All types of tree and seedling growth are suffering severely from lack of moisture and extreme heat. Many of the hardier varieties of trees are commencing to shed their leaves.

Horticulture - Sandcherries, golden currants, and raspberries were picked. Chokecherries are ready to pick. Heavy crops of sandcherries and chokecherries, and fair crops of golden currants and raspberries are being produced. A few new golden currant selections have been made. The Chinese cherry is producing a very light crop this year. A light crop of Oka cherries is now ripe, and Opata plums will be ready next week. Other fruit work this week included cutting out blight, irrigating the nursery,

and hoeing. The continued dry and hot weather has put an end to sweet corn breeding. The plants themselves roll badly during the day, pollen is scarce, and silks refuse to grow after being cut back for bagging. All vegetables are at a standstill and in some cases deteriorating badly. An exception seems to be melons. These got a late start, are setting fruit nicely, and still showing no really bad effects of the drought. Indications are the potato crop will be very light this year. Early planted plots yield only two fair sized tubers. Sunshine variety of sweet corn is now in season, with Golden Bantam close behind. An outstanding dry weather vegetable is noted this year, namely New Zealand spinach. This vegetable continues to grow after being cut with no apparent lack of vigor or succulence. The Ohio Canner beat has shown up very favorably this season. The crop is very uniform, and the roots are cylindrical, dark red, sweet, and tender.
Visitors for the week included K.S.Quisenberry,Wheat Investigations; T.R. Stanton, Oat Investigations; Pres.F.E.Cobb, Forestry School, Bottineau,N.D.; Mr.McKinnon, J.C.O'Neill, in charge of Forest Conservation work in North Dak.; L.C.Lippert, Act.Supt.,Indian Reservation. Cannonball, Fort Yates; A.D.McNair, Agricultural Economics; C.E.Kellog, Soils, N. Dak. Agricultural College; and K.V.Goodman, and F.R.Lesh, Jr., Bureau of Soils.

BELLE FOURCHE:

The first two days were unusually cool, but abnormally hot weather has prevailed during the remainder of the week. The maximum temperatures for the past five days have ranged from 95° to 103°, temperatures of 101° or above being recorded on three successive days. The hot weather has caused all small grains to ripen very rapidly. All of the spring wheat, except that reseeded on winter wheat plots, has been harvested, and only one plot of early seeded flax remains standing. Corn has been curling badly, but is withstanding the hot, dry weather remarkably well, and ears have formed on quite a large proportion of the stalks.

Maximum temperature, 103°; minimum, 45°; precipitation, 0.14 inch.

ARCHER:

Except for one shower the weather during the week has been very dry, warm, and clear. Corn is burning beyond recovery. Potatoes and beans appear to be holding their own. Drilled crops are approaching maturity, and some are almost too short to harvest. About 15 acres of fallow land were seeded to winter rye for fall and early spring pasture. Visitors included F.A. Coffman and E.A.Lungren, Cereal Crops and Diseases; W.K.Williams,Extension Forester, Wash.,D.C.; J.L.Emerson, Cheyenne Horticultural Field Station; F.D. Staicu, Bucharest, Roumania, who has been sent to America by the Roumanian Government to study agriculture; and W. Riedl, Asst.Agron.,Univ.of Wyoming.

Maximum temperature, 95°; minimum, 47°; precipitation, 0.32 inch.

NORTH PLATTE:

This section has received no relief from the drought. Temperatures were moderate for most of the week, but yesterday, July 28, the maximum reached 104°, a new high for the year, and evaporation was .512 inch. Irrigated corn has made a remarkable growth. Dry-land corn fields are suffering severely, but in most cases tassels and silks have come out. Weeds are being mowed on stubble plot borders. On account of the extremely dry condition of the soil, plots that should be early fall plowed will be disked to kill weeds, and plowing will be delayed in the hope that rain will be received. N.E.Jodon, who has been in charge of Cereal Crops and Disease work at this station since 1930, is leaving to-day, July 29, having been transferred to Crowley, Louisiana.

AKRON:

Threshing was resumed July 26 after two days spent in weed eradication. The week end finds the oat, spring wheat, and barley variety experiments threshed. Crops are suffering for lack of moisture but not to the extent that seemed probable last week end. Most noticeable shortage of moisture to show at this time is in the forage and grain sorghum variety experiments on Sudan grass stubble, and the Sudan grass seeded on last year's forage and grain sorghum stubble. Corn, the early seeded hay millets, beans, and prosos are continuing to make progress towards maturity. Corn is silking. The rainfall in June was only 40 per cent of normal, and thus far July has produced only 70 per cent of the normal.

Maximum temperature, 100°; minimum, 54°; precipitation, 0.01 inch.

COLBY:

The week has been dry. The last two days have been hot with hot winds. Corn tasselled, and feterita is showing some heads. Corn is showing the effects of the dry weather very much. The sorghums are beginning to wilt. The small grain threshing was done this afternoon. The yields were below appearances. The spring wheat yields were .3 of a bushel on MC D and .5 on 5A. The oat yields were 3.4 bushels on MC D, 3.1 on 8A, .9 on 2B, and .3 on 4A. The barley yields were 7.5 bushels on MC D barley, 4.2 bushels on MC D winter wheat (the former was seeded on March 17, the latter on April 26), and 1.3 bushels on 360B. None of the other small grain plots yielded any grain, and only two others, the barley on 406C and 407C, yielded any straw, not counting the fallow winter wheat plots which had been drilled to barley.

Maximum temperature, 100°; minimum, 55°; precipitation, 0.03 inch.

GARDEN CITY:

Sorghums and corn are beginning to show a pronounced lack of available subsoil moisture. During the day they roll badly, and many of the plots not on fallow have about stopped growing. The drilled Sudan grass on fallow and Sudan grass planted in rows is ready to cut the first time. It is very uneven in height. Cowpeas are not making enough growth to be noticeable. Farmers are preparing their wheat land. Many are cutting acreage considerably more than 20 per cent. Maximum temperature, 101.5°; minimum, 54°; precipitation, none.

HAYS:

Drought continues. There was very little wind during the week or crops would have suffered very much more. Each added day of drought further reduces the possibility of a corn crop, and sorghums that have been "standing by" are now really suffering very much. The corn has reached the stage where 85 per cent of the tassels are showing with 5 to 10 per cent tassels fully emerged and most of these are cooked soon after immergence. At the same time there are only a few signs of shoots and no silks at all. Kafir is very rapidly reaching the stage where if an average yield of grain is made it will have to come from suckers which may start after the drought is broken. The plants or main stalks are so badly stunted now it seems impossible for these to produce much grain. Pastures here are drying up rapidly and getting short. In less favored localities not more than 40 miles distant the pasture grass has been exhausted. Feed cannot be purchased because of lack of funds. The milch cows which have been furnishing the living for the families are going dry. Some feed crops failed to germinate, and those which emerged have died. There is little hope for these people now to grow feed before another year, except perhaps to sow wheat or rye for pasture if rains come soon.

Maximum temperature, 102°; minimum, 52°; precipitation, none.

TUCUMCARI:

A very marked drop in temperatures has occurred the past two weeks, since beneficial rains fell. Crops are growing rapidly, but will need moisture very soon for continued development, for heavy rains two weeks ago did not penetrate below the third foot. Early plots of sorghums are showing a few heads. The majority of rotation milo and kafir plots are from 14 to 20 inches in height, with milo suckering very heavily. The second, very light, cutting of alfalfa was hauled. The Sudan grass pasture was planted June 5, and cattle were turned in July 25 when plants were about waist high and a very few heads emerging. Maximum temperature, 93°; minimum, 60°; precipitation, none.

DALHART:

This is the first week in ten without even a trace of precipitation. The total rainfall since January 1 remains at 2.31 inches. This precipitation was recorded in 26 showers.

Maximum temperature, 100°; minimum, 55°; precipitation, none.

LAWTON: (Report for the two weeks ending July 29, 1933)

Temperatures since the 15th of July have been very moderate and a few local rains have been of considerable benefit to restricted areas within the county. The vicinity of Lawton still remains very dry, and feed crops have suffered intensely from the lack of moisture in spite of the relatively cool temperatures. Grain sorghum yields will apparently be confined to stover weights on nearly all plots. Harvest of both grain and forage sorghums is likely to be necessary within a very short time. Cotton has withstood the summer drought as well as it usually does, but yields have been very materially reduced. Early plantings have a fair set of bolls, but later plantings are characterized by very limited plant growth and heavy abortion of squares. In the May 15 and June 1 plantings a good many plants are dying. The terminal root appears to have been unable to penetrate the hard, dry soil and terminated in a distorted, partly round formation that rests just beneath the soil surface. Cowpeas have made about half the normal vine growth, but the foliage is still green and thrifty. Practically no seed will be produced unless rain is received within the near future. The ground is too hard to plow the crop under for green manure, and as yet, it is impossible to prepare any stubble plots for fall seedings of wheat. Station visitors included R.H. Painter and R.C.Smith, Manhattan, Kans.; J.B.Sieglinger and O.R.Mathews, Woodward, Okla.; C.E.Sanborn and B.F.Kiltz, Stillwater, Okla.; and R.W.Ellithorp, Granite, Okla.

WOODWARD:

The past week has been cool compared to the earlier part of July. Feed crops planted ten days ago after good rains came up to excellent stands, but growth has not been very rapid, because of the cool weather. There is general activity all over this region, since the rains, in preparing land for winter wheat. A number of the earlier varieties of grapes were harvested during the week. The Beta, which is hardier much further north than most grapes, gave good yields of a quality of fruit excellent for juice. Shrubs tried for the first time this year, which are making a nice showing are as follows: Perowskia atriplicifolia has silvery leaves and terminal spikes of light blue flowers. Sophora vivifolia, with small leaves, and delicate spines may make an excellent hedge plant. Sorbaria aitchisonii has made vigorous growth and is now coming into bloom with longer flower spikes than S. sorbifolia, which has been one of the most reliable sources of cut-flowers during summer months. A great many farmers have been to the station to secure dust for the control of plant lice on cucumbers and melons. These crops apparently have done excellently in spite of dry weather.

NOTE:

Under date of August 3, 1933, Dr. Wm.A.Taylor wrote, as follows:

"With the reductions in the funds available for the current fiscal year, it appears advisable to carry the weed project on a different basis, assigning the responsibility for such incidental weed observations or experiments as may be practicable to the several offices where such activities may be carried forward in connection with other activities.

"The Division of Botany will be responsible for the identification of weeds, their approved common names, and other phases of general botanical information about weeds, and specimens for identification and the letters accompanying them shall be referred to the Division of Botany for that purpose. Letters accompanying specimens not addressed to an individual or to a specific division shall go to the Division of Botany for identification of the weed or weeds concerned, and be then referred to the division dealing with the crop or region most closely related to the weed problem involved."

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NOTE:

On August 5, 1933, Doctor C. E. Leighty left Washington to visit the field stations of the Division of Dry Land Agriculture. His first point of stop will be the Northern Great Plains Field Station, Mandan, North Dakota.

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